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Atty Dkt. No.: STHP-002

JUN 1 0 2004

In the claims:



- 1. (Previously Presented) A method of preserving biologically-active material comprising mixing an aqueous suspension of the biologically-active material with a sterile aqueous solution of chitosan or a non-toxic salt thereof to form a coacervate of the biologically-active material and chitosan or non-toxic salt thereof, adding to the coacervate a sterile aqueous solution of trehalose, subjecting the sterile mixture of coacervate and trehalose to drying at a pressure less than atmospheric and at a temperature which is initially less than or equal to 37°C and thereafter may fall provided that the temperature does not fall to, or below, 0°C to form a glassy porous matrix comprising metastable glassy trehalose containing, within the matrix, desiccated biologically-active material and chitosan or non-toxic salt thereof.
- 2. (Original) A method according to claim 1, wherein the biologically-active material is selected from viruses, bacteria, tertiary structured biologically-active protein and nucleic acid.
- 3. (Original) A method according to claim 2, wherein the biologically-active material is at least one virus selected from Rinderpest Virus, Peste de Petit Ruminants Virus, Measles, Mumps, Rubella, Yellow Fever, Polio and Newcastle Disease Virus.
- 4. (Previously Presented) A method according to claim 2, wherein the biologicallyactive material is Mycoplasma mycoides.
- 5. (Original) A method according to any one of claims 1 to 4, wherein the sterile aqueous solution of chitosan or non-toxic salt thereof has a chitosan concentration of 0.01% w/v.
- 6. (Original) A method according to claim 5, wherein the sterile aqueous chitosan solution and the aqueous suspension of biologically-active material are mixed at a

volume ratio of 1:1 at pH 7.4.

7. (Previously Presented) A method according to claim 1, wherein the coacervate of biologically-active material and chitosan is subjected to vortex mixing.

- 8. (Previously Presented) A method according to claim 1, wherein the coacervate of biologically-active material and chitosan is mixed with a sterile aqueous trehalose solution having a trehalose concentration in the range of from 0.20 to 20% w/v.
- 9. (Original) A method according to claim 8, wherein the sterile aqueous solution of trehalose has a trehalose concentration in the range of from 2.5 to 8% w/v.
- 10. (Original) A method according to claim 9, wherein the sterile aqueous solution of trehalose has a trehalose concentration of about 5% w/v.
- 11. (Canceled)
- 12. (Previously Presented) A method according to claim 1, wherein the drying stage is carried out at a pressure of not greater than 800 mbar.
- 13. (Currently Amended) A method according to claim 1, wherein the resulting trehalose matrix containing desiccated biologically-active material and chitosan or non-toxic salt thereof is subjected to a secondary drying procedure for 10 to 30 hours at a pressure not greater than 0.1 mbar and at a temperature which **finally** is in the range of from 40 to 45°C to form a trehalose matrix having a residual moisture content of not greater than 2% containing, within the matrix, desiccated biologically-active material and chitosan or non-toxic salt thereof.
- 14. (Previously Presented) A method according to claim 13, wherein secondary drying is carried out for 20 to 30 hours.
- 15. (Original) A method according to claim 13, wherein secondary drying is carried out for 15 to 17 hours at a temperature of about 37°C and the temperature is,

thereafter, raised gradually over the remaining secondary drying time to a final temperature in the range of from 40 to 45°C.

- 16. (Previously Presented) A method according to claim 13, wherein the residual moisture content at the end of the secondary drying step is 1.0% or lower.
- 17. (Previously Presented) A method of making a vaccine comprising preserving a biologically-active material according to the method of claim 1 and rehydrating the glassy product obtained thereby in an appropriate aqueous medium.
- 18. (Previously Presented) A method according to claim 17, wherein the vaccine is for oral or intranasal use.
- 19. (Original) A method according to claim 17, wherein the vaccine is a Measles, Mumps, Rubella (MMR) vaccine.
- 20. (Currently Amended) A rehydratable composition comprising trehalose in the form of a metastable glass matrix containing, within the matrix, <u>an absorption complex of a desiccated biologically-active material and chitosan or a non-toxic salt thereof.</u>
- 21. (Previously Presented) A rehydratable composition according to claim 20 which has a residual moisture content of not greater than 2%.
- 22. (Previously Presented) A rehydratable composition according to claim 21 which has a residual moisture content of not greater than 1%.
- 23. (Previously Presented) A rehydratable composition according to claim 20, useful on rehydration for making a vaccine.
- 24. (Previously Presented) A rehydratable composition according to claim 20, wherein the biologically-active material is selected from viruses, bacteria, tertiary structured biologically-active proteins and nucleic acids.

25. (Previously Presented) A rehydratable composition according to claim 24, wherein the biologically-active material is at least one virus selected from Rinderpest Virus, Peste de Petit Ruminants Virus, Measles, Mumps, Rubella, Yellow Fever, Polio Myelitis and Newcastle Disease Virus.

- 26. (Previously Presented) A rehydratable composition according to claim 24, wherein the biologically-active material is *Mycoplasma mycoides*.
- 27. (Previously Presented) A method of preserving biologically-active material comprising mixing an aqueous suspension of the biologically-active material with a sterile aqueous solution of chitosan or a non-toxic salt thereof to form a coacervate of the biologically-active material and chitosan or non-toxic salt thereof, adding to the coacervate a sterile aqueous solution of trehalose, subjecting the sterile mixture of coacervate and trehalose to drying for a period of 30 to 60 minutes at a pressure less than atmospheric and at a temperature, which is initially less than or equal to 37°C and thereafter may fall provided that the temperature does not fall to, or below 0°C and wherein the final temperature is less than or equal to 40°C to form a glassy porous matrix comprising metastable glassy trehalose having a residual moisture content of less than or equal to 10% containing, within the matrix, desiccated biologically-active material and chitosan or non-toxic salt thereof.
- 28. (Previously Presented) A method according to claim 27, wherein the biologically-active material is selected from viruses, bacteria, tertiary structured biologically-active protein and nucleic acid.
- 29. (Previously Presented) A method according to claim 28, wherein the biologically-active material is at least one virus selected from Rinderpest Virus, Peste de Petit Ruminants Virus, Measles, Mumps, Rubella, Yellow Fever, Polio and Newcastle Disease Virus.
- 30. (Previously Presented) A method according to claim 28, wherein the biologically-active material is *Mycoplasma mycoides*.

31. (Previously Presented) A method according to claim 27, wherein the sterile aqueous solution of chitosan or non-toxic salt thereof has a chitosan concentration of 0.01% w/v.

- 32. (Previously Presented) A method according to claim 31, wherein the sterile aqueous chitosan solution and the aqueous suspension of biologically-active material are mixed at a volume ratio of 1:1 at pH 7.4.
- 33. (Previously Presented) A method according to claim 27, wherein the coacervate of biologically-active material and chitosan is subjected to vortex mixing.
- 34. (Previously Presented) A method according to claim 27, wherein the coacervate of biologically-active material and chitosan is mixed with a sterile aqueous trehalose solution having a trehalose concentration in the range of from 0.20 to 20% w/v.
- 35. (Previously Presented) A method according to claim 34, wherein the sterile aqueous solution of trehalose has a trehalose concentration in the range of from 2.5 to 8% w/v.
- 36. (Previously Presented) A method according to claim 27, wherein the drying stage is carried out at a pressure of not greater than 800 mbar.
- 37. (Currently Amended) A method of preserving biologically-active material comprising mixing an aqueous suspension of the biologically-active material with a sterile aqueous solution of chitosan or a non-toxic salt thereof to form a coacervate of the biologically-active material and chitosan or non-toxic salt thereof, adding to the coacervate a sterile aqueous solution of trehalose, subjecting the sterile mixture of coacervate and trehalose to drying for a period of from 30 to 60 minutes at a pressure not greater than 800 mbar and at a temperature which is initially less than or equal to 37°C and thereafter may fall provided that the temperature does not fall to, or below, 0°C to form a glassy porous matrix comprising metastable glassy trehalose having a residual moisture content of less than or equal to 10% containing,

within the matrix, desiccated biologically-active material and chitosan or non-toxic salt thereof, and then subjecting the resulting trehalose matrix containing desiccated biologically-active material and chitosan or non-toxic salt thereof to a secondary drying procedure for 10 to 30 hours at a pressure not greater than 0.1 mbar and at a temperature which **finally** is in the range of from 40 to 45°C to form a trehalose matrix having a residual moisture content of not greater than 2% containing, within the matrix, desiccated biologically-active material and chitosan or non-toxic salt thereof.

- 38. (Previously Presented) A method according to claim 37, wherein the biologicallyactive material is selected from viruses, bacteria, tertiary structured biologicallyactive protein and nucleic acid.
- 39. (Previously Presented) A method according to claim 38, wherein the biologically-active material is at least one virus selected from Rinderpest Virus, Peste de Petit Ruminants Virus, Measles, Mumps, Rubella, Yellow Fever, Polio and Newcastle Disease Virus.
- 39. (Previously Presented) A method according to claim 38, wherein the biologically-active material is at least one virus selected from Rinderpest Virus, Peste de Petit Ruminants Virus, Measles, Mumps, Rubella, Yellow Fever, Polio and Newcastle Disease Virus.
- 40. (Previously Presented) A method according to claim 38, wherein the biologically-active material is *Mycoplasma mycoides*.
- 41. (Previously Presented) A method according to claim 37, wherein the coacervate of biologically-active material and chitosan is mixed with a sterile aqueous trehalose solution having a trehalose concentration in the range of from 0.20 to 20% w/v.
- 42. (Previously Presented) A method according to claim 41, wherein the sterile aqueous solution of trehalose has a trehalose concentration in the range of from 2.5 to 8% w/v.

43. (Previously Presented) A method according to claim 37, wherein secondary drying is carried out for 20 to 30 hours.

- 44. (Previously Presented) A method according to claim 37, wherein secondary drying is carried out for 15 to 17 hours at a temperature of about 37°C and the temperature is, thereafter, raised gradually over the remaining secondary drying time to a final temperature in the range of from 40 to 45°C.
- 45. (Previously Presented) A method according to claim 37, wherein the residual moisture content at the end of the secondary drying step is 1.0% or lower.
- 46. (Previously Presented) A method of making a vaccine comprising preserving a biologically-active material according to the method of claim 27 and rehydrating the glassy product obtained thereby in an appropriate aqueous medium.
- 47. (Previously Presented) A method of making a vaccine comprising preserving a biologically-active material according to the method of claim 37 and rehydrating the glassy product obtained thereby in an appropriate aqueous medium.
- 48. (Previously Presented) A method according to claim 47, wherein the vaccine is for oral or intranasal use.
- 49. (Previously Presented) A method according to claim 47, wherein the vaccine is a Measles, Mumps, Rubella (MMR) vaccine.